Advances in Cyclic Nucleotide Research, volume 13

Edited by P. Greengard and G. A. Robison
Raven Press; New York, 1980
x + 342 pages. $51.68

Volume 13 in the Advances in Cyclic Nucleotide Research series contains 7 review articles, some of which outline the latest developments in our understanding of the components of the cyclic AMP system while others provide the latest insights into the involvements of cyclic nucleotides and calcium in a number of physiological processes. The book will thus be of interest both to those with a general interest in cyclic nucleotides, as well as to those with an interest in the involvement of cyclic nucleotides in specific physiological events. The consideration of calcium as well as cyclic nucleotides in several of the chapters is to be welcomed since it is becoming increasingly difficult to divorce the two.

The chapters should help bring the reader up to date in the specialised fields covered, as well as suggesting new approaches which may provide answers to many unanswered questions concerning cyclic nucleotides. In particular, the initial chapter on the genetic analysis of hormone-sensitive adenylate cyclase, using the S49 mouse lymphoma cell line, provides an insight into the possible contribution of genetic analysis to our understanding of hormone action. This is followed by a chapter on the phosphorylation of contractile proteins in relation to muscle function and includes a consideration of the phosphorylation of troponin, tropomyosin and myosin in skeletal, cardiac and smooth muscle. Phosphoprotein phosphatases are an integral part of the regulatory mechanism of protein phosphorylation and the involvement of such enzymes in glycogen metabolism is considered in the next chapter. Evidence is presented in this chapter for a single multifunctional phosphatase that regulates the dephosphorylation and functional interconversion of the enzymes of glycogen metabolism.

The remainder of the book consists of 4 chapters on renal mineral metabolism, hormonal regulation of adrenocortical function, parotid gland function and spermatozoa function. The chapters are all well written and provide the latest information concerning the involvement of cyclic nucleotide and/or calcium as important regulators of these physiological processes.

In summary, this book continues to maintain the high standard that one has come to expect of books in this series and as such it should be read by all those with an interest in cellular regulation.

W. Montague

Mathematical Modelling and Computers in Endocrinology

by J. E. A. McIntosh and R. P. McIntosh
Springer-Verlag; Berlin, Heidelberg, New York, 1980
xii + 338 pages. DM 88.00; $52.00

This book is number 16 in the Monographs on Endocrinology series published by Springer-Verlag and represents a useful addition to the series. The book contains 9 chapters covering the modelling and mathematical description of biological systems, the design of experiments, binding and displacement assays, through to biological rhythms and stochastic models. There are also useful appendices on statistics and computer programmes for particular problems.

The stated aims of the authors are 2-fold: (i) To